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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/698,927	10/26/2000	Jacques Yves Guigne	20/200	7122

7590 10/21/2003

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EXAMINER	
LOBO, IAN J	

ART UNIT	PAPER NUMBER
3662	

DATE MAILED: 10/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/698,927	GUIGNE, JACQUES YVES	
	Examiner	Art Unit	
	Ian J. Lobo	3662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 August 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *4,5,8 and 14-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *4,5,14 and 15* is/are allowed.

6)☒ Claim(s) *8 and 16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

2. The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claim 8 is rejected under 35 U.S.C. 102(a and/or e) as being anticipated by Wilk ('199).

The patent to Wilk discloses a system including an array (12) comprising a plurality of transducers (14) and circuitry (22) connected to the transducers. As depicted in Fig. 2, the transducers (14) include a plurality of transducers (28) that can generate a sonic beam and a plurality of sonic detectors (30) that can detect sound (col. 5, lines 11-18). The plurality of transducers are energized one at a time (col. 5, lines 22-24) and are arranged in a row and include at least three detectors. Further, as

shown in Fig. 2, the sonic detectors (30) include at least three detectors and the detectors (30) are interspersed with the transducers (28) with each transducer (28) associated with an adjacent detector (30).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wilk ('199) when taken in view of Guigne ('449), Yu et al ('967) and Raudsep ('555).

The difference between claim 16 and the aforementioned Wilk system is the claim specifies that the transducers are energized by a carrier frequency of at least 200 kHz and are modulated by a frequency less than the carrier frequency. Wilk not disclose such a specific carrier frequency or modulation scheme.

Guigne teaches that operating carrier frequencies of at least 100 kHz (minimum carrier frequency of 100 kHz) are well known in the art of undersea sonar investigations. Yu et al (col. 1, lines 6-7 and 51-52, teach that conventional sonar transducer arrays operate in the carrier frequency range of 100 KHz to 5 MHz. Thus, it is seen from Guigne and Yu et al, that the claimed carrier frequency of 200 kHz is within the operating range of conventional sonar detection.

Raudsep teaches that it is well known to utilize a modulation scheme where a carrier frequency is modulated by a lower frequency. As noted by Raudsep, ocean exploration requires precise location of submerged objects. The modulation scheme taught by Raudsep enhances the accuracy of the position determining.

Thus, in view of Raudsep, Yu et al and Guigne, it would not have been unobvious to a skilled artisan to utilize an operating frequency of 200 kHz in Wilk's system to achieve improved terrain imaging and further modulate the carrier frequency by a lower frequency so as to increase the accuracy of the imaging system. Claim 16 is so rejected.

Allowable Subject Matter

6. Claims 4, 5, 14 and 15 are allowed.

Response to Arguments

7. Applicant's arguments filed August 4, 2003 have been fully considered but they are not persuasive.

With respect to claim 8, note that in Fig. 2 (the transducer/receiver grid), the third column, second row has transducer 28, and in that same column, the sixth row also has transducer 28. Between the transducers in row 2 and row 6 in column 6, there are 3 receivers. So as opposed to applicant's arguments on page 8 of the instant amendment, the detectors 30 do lie between transducers 28. Figure 2 of Wilk shows an array that includes transducers (28) "interspersed" with sensors or detectors (30).

Further, with respect to claim 8, appellant argues (second paragraph on page 8) that Wilk does not try to keep a detector adjacent to a particular transducer. This argument is also not convincing since as shown in Figure 2, the transducers (28) and detectors (30) are attached to a carrier net (16) and such an attachment of transducers and detectors keeps a transducer adjacent to a particular detector. For example, as shown in Fig. 2, at the top left of the array is located a transducer 28 surrounded by three detectors 30. As stated on col. 5, lines 22-24, the transducers are energized one at a time. Each of the detectors surrounding the aforementioned transducer then detects the reflected wave energy. This reads upon the claim language that each transducer is associated with an adjacent detector since the transducer 28 is "associated with" an adjacent detector at any given instance.

With respect to the Guigne patent, applicant argues that Guigne does not suggest a carrier frequency of at least 200 KHz. However, Guigne does suggest a carrier frequency with a minimum of 100 KHz. This is within the range claimed. Yu et al teaches the conventional frequency range of sonars is between 100 KHz and 5 MHz. From this one of ordinary skill in the art would surmise that the instantly claimed carrier frequency of at least 200 KHz is within the range called for by Guigne (minimum of 100 KHz) and Yu et al (between 100 KHz and 5 MHz). Applicant's argument that Guigne suggests a carrier frequency of about 100 Khz or lower is exactly opposite to the citation on col. 7, lines 43-47 that calls for a **minimum** carrier frequency of 100 Khz.

In response to applicant's argument that Raudsep is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or,

if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, the field of ocean exploration is common to both the instant claims and the Raudsep patent.

Finally, in response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ian J. Lobo whose telephone number is (703) 306-4161. The examiner can normally be reached on Monday - Friday, 6:30 - 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas H. Tarcza can be reached on (703) 306-4171. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-4180.

Ian J. Lobo
Primary Examiner
Art Unit 3662

ijl